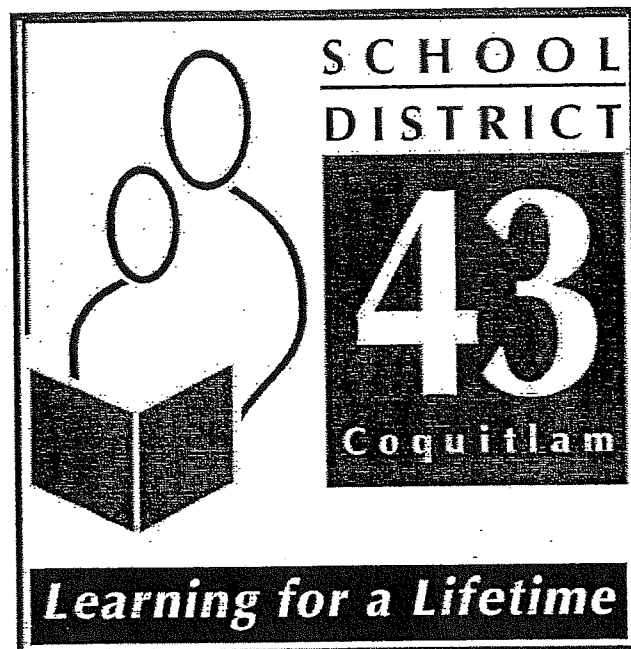


School District No. 43 (Coquitlam)
2013 Carbon Neutral Action Report



School district 43 (Coquitlam) 2013 Carbon Neutral Action Report

This is the 2013 Carbon Neutral Action Report (CNAR) for School District 43 (Coquitlam). This report contains our 2013 emissions profile, offsets purchased, the actions we have taken in 2013 to reduce our GHG emissions and our plans to continue reducing emissions in 2014 and beyond.

By June 30, 2014, School District 43's final CNAR will be posted to our website at www.sd43.bc.ca.

Please refer to the following pages for the Executive Summary, the two CNAR actions and data survey forms, and the District's Sustainability Report.

Emissions and Offsets Summary:

SD 43 (Coquitlam) GHG Emissions and Offsets for 2013 (TCO2E)	
GHG Emissions created in calendar year 2013 (from SMARTTool Homepage)	
Total Emissions	9,409
Total Emissions for Offsets (sub-total)	9,392
Adjustments to GHG Emissions Reported in Previous Years (from SMARTTool Homepage)	
Total Emissions	269
Total Emissions for Offsets (sub-total)	269
Credit owing from PCT at end of 2012 reporting year (if applicable – from May 15 Invoice):	
Credit Owing	63
Total Emissions for Offsets for the 2013 Reporting Year (from Offset Invoice):	9,598

(Mark Ferrari SD43 Secretary Treasurer)
Mark Ferrari 16/5/14
Signature Date
Thomas Grant 16/05/2014
Name (please print) Title
(Thomas Grant SD43 Superintendent)

Executive Summary

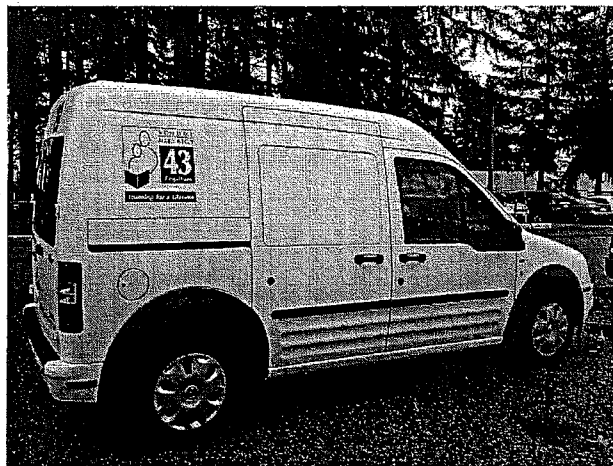
Since 2009, the Coquitlam School Board of Education has considered climate change and sustainability District priorities. Educating staff, students, and parents on the impact of our behaviour around energy consumption and conservation has become integrated into our daily actions. The Coquitlam school district continues to be full supporters of the Climate Action Charter and the targets established by the Greenhouse Gas Emissions Act of 2007. Over the past four years we have established a culture of awareness and action having worked diligently to reduce our carbon footprint through multiple means. The increasing financial and environmental costs of utilities, waste management, fuel and paper supplies remain as concerns to the management of the District and although some issues are addressed proactively, the biggest impact has been noted through sound daily operating practices. The energy conserving strategies implemented do not require employees to compromise indoor thermal comfort, lighting or air quality, but simply the management of these resources more responsibly. Becoming Carbon Neutral in 2010, 2011, 2012, and again in 2013 has forced the Coquitlam School District to expand our environmentally sustainable practices and move forward with both technical and behavioural initiatives to ensure commitment to sustainable change.

Five years ago the Coquitlam School District began taking comprehensive action against climate change by promoting environmentally sustainable designs for the future of all schools, students, staff and the community. In 2013 we have continued this mandate working hard to ensure understanding and involvement on the part of our staff and students around environmental initiatives leading to sustainable behaviour change. Financially, the District continues to devote targeted funds to sustainability projects contributing to its carbon neutrality. Coquitlam school district's larger energy management strategy includes reductions to energy consumption by the end of 2014 outlined in a district Strategic Energy Management Plan (SEMP). Our goal is to reduce our overall energy consumption by 25 % from 2007/08 totals. We are well on our way to achieving this target having reduced energy consumption by an average of 4% annually over the past five years. These reductions have been in all areas of energy consumption, providing significant cost savings to the district and financing further energy efficient retrofit projects.

Through the work of staff, students and our larger community, Coquitlam School District will continue to implement changes addressing climate change and pursue carbon neutrality through the mantra, *education, activation and innovation*, involving staff, students and parents in the process.

Our mandate for action continues to be based on District guidelines that contribute to our overall goals of energy management and environmental sustainability. Some of the key objectives in our district guidelines are outlined below:

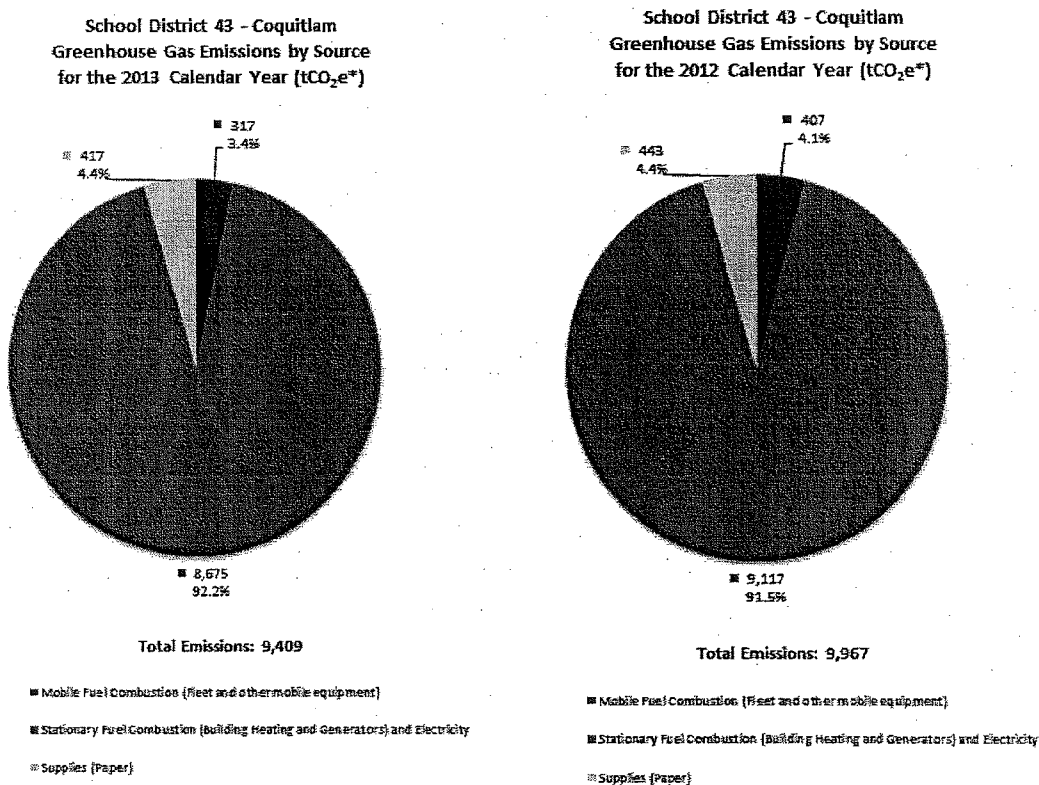
- 1) To educate students and staff on energy consumption, our carbon footprint and issues of sustainability; the moral imperative, ultimately improving student achievement through ecological and environmental literacy.
- 2) To engage staff and students in *Climate Action* programs of change, i.e. reduce environmental impact by minimizing solid waste, and supporting sustainable business and educational practices.
- 3) To integrate environmentally sustainable considerations into all of our business decisions.
- 4) To review and report our energy and sustainability performance in support of energy saving upgrades and maintenance across all facilities in our district.
- 5) To promote innovative designs in the implementation of sustainable facilities planning.
- 6) To develop well represented Climate Action Teams across the District that work closely with our Board of Education and District Leadership Team to ensure we are working together for a sustainable future.



Overview

Greenhouse Gas Emissions:

School District 43's Total Greenhouse Gas Emissions in 2013 (left) and 2012 (right) are represented in the graphs below.



Offsets applied to become Carbon Neutral in 2013:

The **9,409** tons of Carbon Emissions (tCO₂e) noted above, require an offset investment of approximately **\$235,225** to be deemed Carbon Neutral.

Changes to Greenhouse Gas Emissions and Offsets from 2012:

This compares to the investment of **\$248,650 in 2012** to offset **9,967 tCO₂e**. The differences being **\$13,425** or a 5% decrease in emissions.

Actions Taken to Reduce Greenhouse Gas Emissions in 2013:

Coquitlam School District has been a Power Smart Partner with BC Hydro for five years and has utilized Hydro's Energy Manager incentive to employ a "Principal of Energy and Sustainability." The District has also utilized the funding by Fortis BC to employ an Energy Specialist over the past year and a half to add to the Energy Management Team. Our Executive level "Green Team" met regularly in 2013, gathering for BC Hydro Quarterly presentations and follow up meetings to provide support and guidance around processes involving visioning and environmental sustainability initiatives. Our Maintenance Department continued to use infrastructure funding for several lighting retrofits and HVAC upgrades in an attempt to increase efficiency and reduce energy cost. Three boiler plant upgrades were applied for through the Ministry's Carbon Neutral Capital Plan. The District was awarded a CNCP grant in the amount of \$168,218.00 to replace a heating plant in one of our elementary schools and are relying on the Annual Facility Grant (AFG) to fund to others. Further, re-commissioning of HVAC systems in seven middle/secondary schools is underway with the financial support of Hydro's Continuous Optimization Program (C.O.P.). In addition, lighting retrofit projects in 12 elementary schools were completed amounting in over 700,000 Kwh's in savings to the District.

Monitoring and measuring the efficiency of our centrally controlled heating and ventilation systems continued to be a focus for our Maintenance Department. Our Energy Specialist continues to work in partnership with our DDC (Direct Digital Control) Technologist and HVAC supervisor in an attempt to align daily, monthly and yearly scheduling to reduce energy consumption in buildings across the district.

Design planning for another replacement school also took place in 2013 while two others began construction with all certified to achieve a LEED Gold or higher standard. All Capital planning projects continued to employ innovative approaches to sustainable design practices.



Education and behavioural change campaigns improved in 2013, Staff and students worked on independent projects around "Zero-waste" and Energy Conservation projects. Schools utilized grant funding from District "Green Grants" and other community sources to support this work.

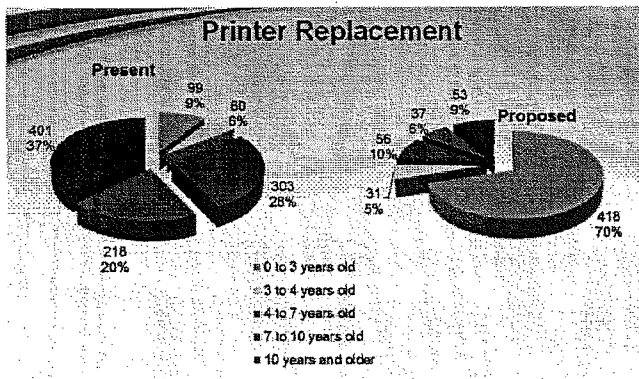
The Coquitlam Youth Sustainability Network (CYSN) connected students from across eight secondary and thirteen middle schools to address energy and waste reduction as their goals for the 2013/2014 school year. Results of their efforts can be noted in the District's overall reduction in waste, energy consumption, and carbon emissions. Further, the awareness their work has

generated has spread not only throughout District schools, but to Board Trustees, District leaders, and Community through various media sources (District Website, Facebook: GreenSD43, and Twitter: @Greensd43).

Over a third of District schools expanded their recycling programs to include organic waste pick-ups to support "Zero-waste" campaigns in anticipation of the Metro Vancouver bylaw banning organic waste from landfills in January 2015. With the increase in organic waste recycling, the District is considering significant changes to its waste management practices.

The District Energy and Sustainability website, "Our Green Future", was further improved to better encourage the collection and transfer of information to all schools and provide a repository for climate action initiatives. Regular updates and initiatives were communicated through the Principal of Energy Sustainability with support of the Manager of Communications.

Reports to the Board of School Trustees, Superintendent, Secretary Treasurer, and school-based administrators were regularly reported throughout the year to acknowledge and promote the education activities and innovative projects being facilitated around the District.



The District moved forward on its overall print strategy, "Print-wise", replacing and/or removing all outdated printers and fax machines and monitoring user copy/print volumes. This new approach showed a decrease in paper and copy amounts and costs. In the coming years, all schools are expected to phase out excessive printers in

schools to further reduce consumable usage. 2013 also yielded more teachers, staff and schools going to paperless newsletters and notices, as well as creating virtual classrooms and online homework and discussion boards in attempts to reduce paper consumption. District level meetings encouraged posting handouts online and increased use of tablet technology to review resources and electronically record notes.

Plans to Continue Reducing Greenhouse Gas Emissions 2013 – 2014:

School District 43 will continue to reduce Greenhouse Gas Emission by educating our students, staff and parents, facilitating actions and promoting innovation leading to sustainable behaviour change throughout our community.

As part of our overall strategy to reduce our GHG emissions, Coquitlam School District has made energy management and environmental sustainability over the next 2 to 3 years a priority. With the continued support of the BC Hydro Management program, our goals to reduce our energy consumption will align with measures to be determined by end of April 2014.

Facilities and Maintenance will continue with HVAC and lighting maintenance/upgrades in order to contribute to more energy efficient buildings and better learning and working environments for students and staff. As the design and construction process for our new schools progress, the District will continue to consult with energy modelers to ensure all of our new buildings perform at optimal levels of energy efficiency. Innovative design principles will continue to be considered throughout the design process as District Leadership, partner groups, and the community provide feedback as to the make-up of 21st Century Schools. The BC Hydro Continuous Optimization Program will continue to provide data analyses by way of "real time" natural gas and hydro meters for 15 of our larger school sites over the course of the next 1 to 2 years to optimize building performance and systems efficiency.

Sustainable behavior change will continue to be one of the District's key foci over the next three years as we continue to shift paradigms and reinforce a systematic approach to carbon neutrality and environmental responsibility. BC Hydro Education programs as well as Ministry and teacher designed curriculum across K-12 will be key to the success of our efforts. Project based and personalized learning opportunities lining up



with our sustainability initiatives will be promoted and supported by district personnel and our Energy Management Team through district wide, school and classroom presentations will continue to strengthen the nature of this mandate. Incentive programs for schools will continue through the support of the District and outside agencies. Regular and targeted communication, both face to face and electronically, will be utilized to actively promote and celebrate our growth and successes.

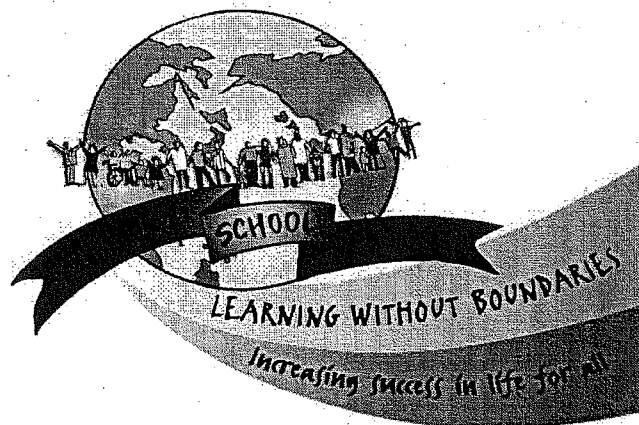
Overall, the District is counting on a combination of both technical and behavioural projects to reduce energy consumption levels by another 5% by the end of the 2014-2015 school year. As noted throughout this summary, we are well on our way and are confident that with continued executive support and the enthusiasm of students and educators, the District will surpass this goal. In the end, we are encouraging global social responsibility and it is this moral imperative of conservation and sustainability that counts. We consider it our responsibility as educators to be leaders for this sustainable change.

Thomas Grant

Tom Grant
Superintendent of Schools,
School District 43 (Coquitlam)

Mark Ferrari

Mark Ferrari
Secretary Treasurer
School District 43 (Coquitlam)



Total GHG Emissions by type

** Includes Fossil Fuels and CH₄ and N₂O from Biogenic Fuels

2013 Carbon Neutral Action Report (CNAR) - Part 2 ACTIONS

Created Monday, March 03, 2014

Updated Friday, March 14, 2014

<https://fluidsurveys.com/surveys/cas-z/2013-cnar-form-bps-actions/b641f6792e1c873d2a95c37f0623013a/>

Page 1

Please complete the following sections of the 2013 Carbon Neutral Action Report form. Save your work frequently to prevent it from being lost. You can also save a copy for your own use as either a WORD or PDF file using the buttons at the bottom of each page.

This is Part 2 of the Carbon Neutral Action Report form. This section reports on actions taken to reduce emissions during the 2013 calendar year. This information will be included in your final Carbon Neutral Action Report posted on the Ministry of Environment website.

When the form is complete press the submit button on the last page to automatically submit the information to the Climate Action Secretariat (CAS). Do not press submit before you are ready – this may result in a loss of work.

In addition to completing this survey (Part 1 2), you are required to submit your completed Overview (Executive Summary) and Self-Certification Checklist. The 2013 Overview template was included in the email sent and can also be found on the LiveSmart leaders Community.

Please ensure you meet the following reporting deadlines:

A DRAFT 2013 CNAR is due to CAS by March 31, 2014. The draft is comprised of the Overview ONLY (no executive sign-off required).

The FINAL 2013 CNAR is due to CAS by May 30, 2014. The final 2013 CNAR includes Part 1 Part 2 survey form and Overview.

The Self-Certification Checklist is due to CAS by May 15, 2014.

For more information about the Carbon Neutral Government process, please refer to *Becoming Carbon Neutral 2013*, or should you have any questions please contact climateactionsecretariat@gov.bc.ca.

Organization Name

School District 43 (Coquitlam)

Actions Taken to Reduce Emissions

1) Stationary Fuel Combustion, Electricity (Buildings):

Indicate which actions were taken in 2013:

Performed energy retrofits on existing buildings

Yes

Built or are building new LEED Gold or other "Green" buildings.

Yes

Undertook an evaluation of overall building energy use.

Yes

Please list any other actions taken to reduce emissions from Buildings:

BC Hydro Continuous Optimization Re-commissioning of 6 existing building

2) Mobile Fleet Combustion (Fleet and other vehicles):

Indicate which actions were taken in 2013:

Do you have a fleet?

Yes

Replaced existing vehicles with more fuel efficient vehicles (gas/diesel)

Yes

Replaced existing vehicles with hybrid or electric vehicles

No

Reduced the overall number of fleet vehicles

No

Took steps to drive less than last year

Yes

Please list any other actions taken to reduce emission from fleet:

Carpooling to meetings
Reduction of off site meetings

3) Supplies (Paper):

Indicate which actions were taken in 2013:

Used less paper than previous year

Yes

Used only 100% recycled paper

No

Used some recycled paper

Yes

Used alternate source paper (Bamboo, hemp, etc.)

No

Please list any other actions taken to reduce emissions from paper use:

District wide "Print Wise" Print Strategy - reducing printers and copiers in all buildings and monitoring building and individual copying habits
Implementing eFax technology and removing Fax machines from buildings

Actions Taken to Reduce Emissions - continued

Explain how you plan to continue minimizing emissions in 2014 and future years:

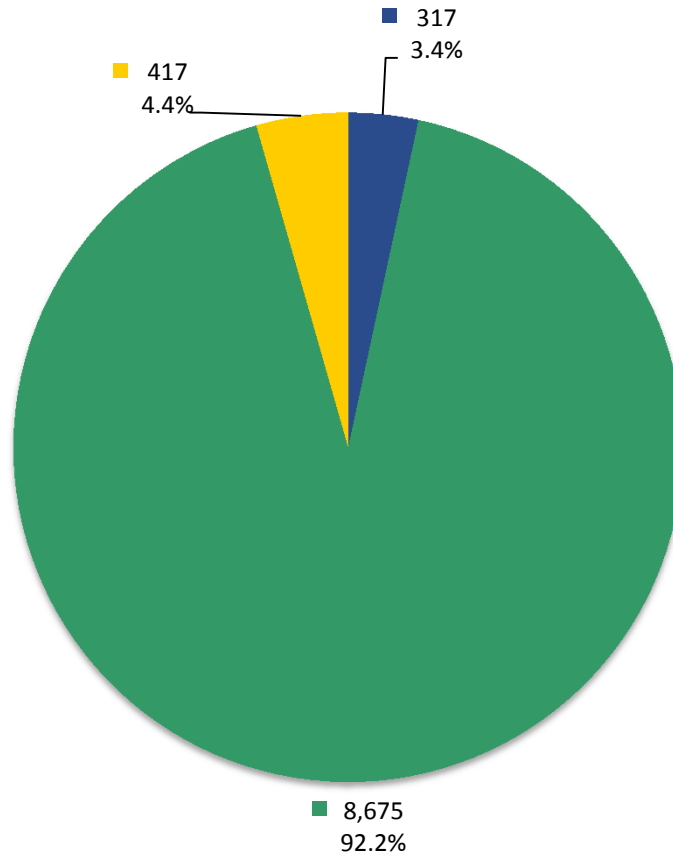
School District 43 is committed to:

- retrofitting exterior lighting with longer lasting LED alternatives*
- retrofitting inefficient heating plants through CNCP grants and other financial sources*
- utilizing more technology to reduce paper use and make use of virtual meetings and seminars to share knowledge.*
- renew fleet vehicles with both fuel efficient and hybrid vehicles.*
- reducing cafeteria service in some locations*
- addressing plug load energy by limiting appliances in various areas of buildings*

If you wish to list any other "sustainability actions" outside of buildings, fleet, paper and travel check "yes". This reporting is optional.

No

School District 43 - Coquitlam Greenhouse Gas Emissions by Source for the 2013 Calendar Year (tCO₂e*)



Total Emissions: 9,409

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion (Building Heating and Generators) and Electricity
- Supplies (Paper)

Offsets Applied to Become Carbon Neutral in 2013 (Generated May 21, 2014 3:43 PM)

Total offsets required: **9,392**. Total offset investment: **\$234,800**. Emissions which do not require offsets: **16** **

*Tonnes of carbon dioxide equivalent (tCO₂e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

** Under the *Carbon Neutral Government Regulation of the Greenhouse Gas Reduction Targets Act*, all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.